

PATENT COOPERATION TREATY

PCT



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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

| | | | |
|---|--|---|----------------------|
| Applicant's or agent's file reference 0000054352 | FOR FURTHER ACTION | | See Form PCT/PEA/416 |
| International application No. PCT/EP2004/002632 | International filing date (day/month/year) 12.03.2004 | Priority date (day/month/year) 13.03.2003 | |
| International Patent Classification (IPC) or national classification and IPC A01N43/40, A01N47/36 | | | |
| Applicant BASF AKTIENGESELLSCHAFT et al. | | | |
| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> | | | |
| <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input checked="" type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p> | | | |
| Date of submission of the demand 13.01.2005 | | Date of completion of this report 01.02.2005 | |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | | Authorized Officer Marie, G Telephone No. +49 89 2399-2571  | |

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/002632

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-61 as originally filed.

Claims, Numbers

1-21 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/002632

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
☒ claims Nos. 1, 7-11, 13-21 (in part), 3-6

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the said claims Nos. 1, 7-11, 13-21 (in part), 3-6
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
- the written form ☐ has not been furnished
- ☐ does not comply with the standard
- the computer readable form ☐ has not been furnished
- ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/002632

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees, the applicant has:
- ☐ restricted the claims.
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ neither restricted nor paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1, 7-11, 13-21 (in part), 2 and 12 (complete) .

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|---|
| Novelty (N) | Yes: Claims | 12 (complete) |
| | No: Claims | 1,7,10,13-21 (in part), 2 (complete) |
| Inventive step (IS) | Yes: Claims | 12 (complete) |
| | No: Claims | 1,7,10,13-21 (in part), 2 (complete) |
| Industrial applicability (IA) | Yes: Claims | 1,7-11,13-21 (in part), 2 and 12 (complete) |
| | No: Claims | - |

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/002632

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2004/002632

Re Item I

Basis of the opinion

The documents to which this communication refers are numbered in their order of appearance in the international search report.

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The present opinion is established for the subject-matter which has been presently searched, namely invention 1 (see below).

Re Item IV

Lack of unity of invention

The application lacks unity within the meaning of Article 13.1 PCT for the following reasons:

The common concept linking together the different embodiments of the present invention is the following:

A synergistic herbicidal mixture comprising A) picolinafen and B) a synergistically effective amount of at least a sulfonylurea having the backbone $\text{-SO}_2\text{-NH-CO-N-*ring*}$ wherein the *ring* comprises at least two nitrogen atoms in position 1,3.

Said common concept is not novel over WO 03/015520 (D5), in which mixtures of picolinafen with meso- and iodo-sulfuronmethyl (sodium) are described (see related parts in the search report).

The present subject-matter has therefore to be divided in two inventions, the first corresponding to a mixture of picolinafen and at least a sulfonylurea of formula II wherein A is an aryl-group (A1) and the second being a mixture of picolinafen and at least a sulfonylurea of formula II wherein A is an heteroaryl group (A2-A5).

Invention 1 (1, 7-11, 13-21 (in part); 2 and 12 (complete))

A synergistic herbicidal mixture comprising A) picolinafen and B) a synergistically effective amount of a least a sulfonylurea of formula II wherein A is A1;
a herbicidal composition comprising a herbicidally effective amount of said synergistic herbicidal mixture, at least one liquid and/or solid carrier and, if desired, at least one surfactant;
a process for the preparation of said herbicidal composition; a method for controlling undesired vegetation comprising applying said synergistic herbicidal mixture.

Invention 2 (1, 7-11, 13-21 (in part); 3-6 (complete))

A synergistic herbicidal mixture comprising A) picolinafen and B) a synergistically effective amount of a least a sulfonylurea of formula II wherein A is A2, A3, A4 or A5;
a herbicidal composition comprising a herbicidally effective amount of said synergistic herbicidal mixture, at least one liquid and/or solid carrier and, if desired, at least one surfactant;
a process for the preparation of said herbicidal composition; a method for controlling undesired vegetation comprising applying said synergistic herbicidal mixture.

For the purpose of the present communication, an opinion is only given for invention 1.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Novelty (Article 33(2) PCT)

Irrespective of the intermediate documents **D1-D4**, the subject-matter of claims 1-21 (partly, relating to invention 1) lacks novelty over **D5** for the following reason:

D5 discloses synergistic herbicidal combinations comprising sulfonylureas of *formula I*, in particular mesosulfuron-methyl and iodosulfuron-methyl, and other herbicides, among which picolinafen is cited and preferred. These mixtures can further comprises safeners (see related parts of the search report).

Said document **anticipates the subject-matter of claims 1, 2, 7, 10 and 13-21.**

2. Inventive step (Article 33(3) PCT)

The remaining new subject-matter of the present first invention seems to involve

an inventive step.

Re Item VIII

3. The subject-matter of claims 2-5 is broader than the subject-matter of claim 1 to which said claims refer insofar as methoxycarbonyl, ethoxycarbonyl, oxetan-3-yloxy carbonyl (R^4 , claim 2), methoxycarbonyl (R^6 , claim 3), methoxycarbonyl (R^8 , claim 4), methoxycarbonyl or ethoxycarbonyl (R^9 , claim 5) are not mentioned in the definition of said R^n substituents in claim 1.

N.B. Adding those substituents to the definition of said R^n in the subject-matter of claim 1 would contravene the requirements of Article 34(2)(b) PCT because such an amendment would go beyond the disclosure of the international application as filed due to other possible substituent combinations which were not originally disclosed..

4. The subject-matter of claims 15 and 16 does not comply with the requirements of Article 6 PCT because they refer to claims 13 and 14 which are broader than said claims.

Indeed, the subject-matter of claims 15 and 16 exclude the presence of a further active ingredient whereas claims 13 and 14 define the nature of further active ingredients which are present in the mixture.

5. The subject-matter of claims 7-9 is broader than the subject-matter of claim 1 to which they refer insofar as flzasulfuron does not fall within the group of sulfonylurea herbicides as defined in the structure of claim 1 ($R^6 \neq CF_3$).

The same applies to claims 7-9 in the case where component B is nicosulfuron ($R^6 \neq CON(CH_3)_2$).

The same applies to claims 7 and 8 in the case where component B is trifloxysulfuron ($R^6 \neq OCH_2CF_3$).